

BURNETT (C.H.)

THREE CASES OF CHRONIC TINNITUS AURIUM  
AND TYMPANIC VERTIGO RELIEVED BY  
REMOVAL OF THE INCUS.

BY

CHARLES HENRY BURNETT, M.D.,  
AURAL SURGEON, PRESBYTERIAN HOSPITAL, ETC., PHILADELPHIA.

---

FROM  
THE MEDICAL NEWS,  
April 28, 1894.





[Reprinted from *THE MEDICAL NEWS*, April 28, 1894.]

**THREE CASES OF CHRONIC TINNITUS AURIUM  
AND TYMPANIC VERTIGO RELIEVED BY  
REMOVAL OF THE INCUS.<sup>1</sup>**

BY CHARLES HENRY BURNETT, M.D.,  
AURAL SURGEON, PRESBYTERIAN HOSPITAL, ETC., PHILADELPHIA.

THE following cases were operated upon primarily to rid the patients of intensely annoying tinnitus and ear-vertigo, dependent upon so-called chronic catarrh (sclerotic) of the middle ear. Incidentally we may learn something about the effect of the operation upon the hearing, which is always reduced to a low point in chronic tympanic vertigo. The deafness in such cases, however, is disregarded by the patients in their eagerness to obtain relief from tinnitus aurium and aural vertigo.

CASES XIII AND XIV.<sup>2</sup>—Mr. W. R. P., of Philadelphia, aged fifty-eight, formerly a sea-captain, now a salesman in this city, was brought to me October 11, 1893, by his family physician, Dr. M. G. Tull. It was stated that the man's hearing had begun to fail fifteen years previously, first in the left ear, and then in the right. A year ago the patient began to have added to his other symptoms of chronic catarrh of the middle ears, more tinnitus

<sup>1</sup> Read before the Section on Otology and Laryngology of the College of Physicians of Philadelphia, March 6, 1894.

<sup>2</sup> Cases I-X were detailed in *THE MEDICAL NEWS*, May 13, 1893, p. 509, and Cases XI and XII in *THE MEDICAL NEWS*, September 30, 1893, p. 374.





aurium and some ear-vertigo. The vertigo was at first not very bad nor very frequent; gradually, however, the attacks became more frequent and more intense, until for three months preceding his first visit to me the vertiginous attacks had nearly incapacitated him for business. He has never fallen, but he has been obliged to sit down in the street and to hold on to objects in the street to keep himself from falling, as these attacks have occurred without warning. The vertigo has usually been followed by more or less nausea.

Otoscopic examination of the ear revealed retracted but not thickened membranæ. The incus was visible through each. Hearing in the left ear was *nil*; in the right ear by means of the ear-trumpet only. The tuning-fork was not heard *per ossa* in either ear. The membranæ were found restricted in their movement under the pneumatic speculum.

Retraction of the ossicles and impaction of the stapedes were diagnosticated as the cause of the tinnitus and vertigo, and removal of the incudes was advised as the only means of liberating the stapedes and overcoming the labyrinthine pressure caused by the stapelial impaction in the oval window. The removal of both incudes seemed advisable, as both ears being similarly affected it was deemed that lesions in both might contribute to the causation of the tympanic vertigo. On October 16, 1893, both incudes were removed, the patient being under ether. By November 1st the right membrana had healed, and the man could hear conversation close to his ear without an ear-trumpet. A little tinnitus existed.

The day after the removal of the incus the patient could hear the voice close to the left ear, which had been impossible before. This ability, however, gradually disappeared before the membrana closed.

Two months after the operations on the tympana the patient reported feeling a little tinnitus in both ears, *but no vertigo since the operations*. The tuning-fork was heard *per ossa* in both ears. He depends upon his right ear for hearing, aided by the trumpet, in business, but at home he uses his ear without this aid much of the time.

When I was a student of otology in Vienna, over twenty years ago, Politzer showed his class a few cases of what he denominated "traumatic catarrh" of the middle ear, resulting from falls or blows. In this affection the deafness, tinnitus, etc., are not considered dependent upon a lesion of the nerve in the labyrinth, but upon trophic disturbances in the middle ear. The treatment recommended was the same as that for non traumatic catarrh of the middle ear. As far as I could discern no relief was ever given these cases by the ordinary routine treatment of chronic catarrhal otitis media. Since the time I allude to I have seen a number of cases of so-called "traumatic" catarrh of the middle ear, which I have failed to relieve of any of their symptoms by the ordinary remedies.

Although the etiology and pathology of these cases of "traumatic" catarrhal otitis media are obscure, I concluded at last that the lesion in such instances must lie in adhesive inflammation in the tympanum and about the ossicula, induced by the traumatism. This condition would be competent to bring about a retraction of the entire chain and consequent impaction of the stapes in the oval window, with pressure upon the labyrinthine fluid. Therefore it seems just to conclude that liberation of the stapes, or even its entire removal, in such cases

would afford relief from the tinnitus and vertigo. This supposition has been to some extent justified by the results of removing the incus in the following two cases:

CASE XV.—Mr. C. S., of Philadelphia, aged sixty years, was sent to me October 2, 1893, by Dr. Lawrence Wolff, with the statement that four months previously the patient had "fallen down stairs and sustained a concussion of the brain, and probably some fracture about the base. He is since deaf in the right ear, and has great tinnitus and throbbing in it." The patient stated that in his fall he had struck the top of his head, but that there was "no cutting of the scalp." He seemed to have been attacked with vertigo, without any reason assignable on his part, just as he was going to bed, and hence the fall. He was unconscious two weeks. Immediately upon recovering consciousness he noted tinnitus and deafness in his right ear, which, he said, had been perfectly well before the accident. After getting up and walking about he had attacks of uncertainty of gait. Tinnitus and deafness have been constant since the accident.

Examination with the otoscope showed that the membrana in the right ear was crinkled and white. Under Siegle's pneumatic speculum the malleus was found to be immovable, but the posterior half of the membrana was easily movable under this test. The pneumatic suction of the ear caused the ear to "feel better," but did not quell the tinnitus. The opposite membrana tympani was white and lusterless, but the hearing perfect in the left ear.

The case was diagnosticated as one of "traumatic catarrh" of the middle ear, productive of deafness, tinnitus, and vertigo. The removal of the incus was suggested as the only means in my power to relieve him, and this was acceded to by his physician, Dr. Wolff, and himself.



On October 23, 1893, under ether, the posterior superior quadrant of the membrana tympani was cut away from its peripheral attachment, and the incus exposed to view. This was easily detached from the stapes, but it was so adherent to its attachments in the attic and on its outer surface with the inner surface of the tympanic ring that considerable traction was necessary in order to remove it from the tympanic cavity. By October 25th there was no reaction in the drum cavity, less tinnitus, and the gait was more steady. On October 28th, the man slept much better because of the lessening of the tinnitus, which was scarcely appreciable. The patient walked much better. On October 30th there was a little discharge from the drum-cavity, probably due to the tearing of the adhesions about the incus at the time of its removal. There was no pain in the ear, however.

On October 31st, the patient said that he had had great pain in his head and right ear the night before, with very little tinnitus. There was not much discharge from the drum; the jaw was stiff. Possibly the patient took cold while standing in the street looking at a night parade forty-eight hours previously, or perhaps the inflammation was due to the tearing of the adhesions about the incus at the time of its forcible removal.

By November 7th, the membrana had healed; there was very little tinnitus, and he felt much freer in the head than at any time since his accident.

In this case the tinnitus has recurred at times with severity during the past two months, followed by periods of lessening. There has, however, been no pain in the ears or head. The gait is permanently better, but the tinnitus has not been as much relieved as in the following case. The hearing has not been improved. Suction upon

the membrana, which is sunken in the posterior superior quadrant, relieves the tinnitus markedly. The relief may continue for hours. The adherent incus in this case leads to the inference that in the healing of the synechiæ, severed when the incus was removed, the stapes may have become involved and still more or less impacted in the oval window.

The relief now given by the rarefaction of the air in the canal by Siegle's speculum would seem to indicate that there is still some retractive force acting on the stapes, perhaps through the depressed quadrant in the membrana, and mediately thence through the synechiæ still left in the region formerly occupied by the incus, and pressing with varying vigor on the stapes.

So probable do I esteem this that, should the tinnitus and vertigo become as bad as ever, I would advise another opening of the membrana and an inspection of the region of the stapes. If synechial bands should be found in this territory, I would advise their careful exsection.<sup>1</sup>

CASE XVI.—William H., fifty-six years old, personally known to me for over ten years, was struck by a locomotive in December, 1892, and thrown up into the air, landing on his vertex. This happened at a station near Wilmington, Del., and he was conveyed to a hospital in that city. He was admitted as suffering from a compound depressed fracture of the skull. He was unconscious and delirious for two weeks, his life being despaired of.

Immediately upon his discharge from the hospital,

---

<sup>1</sup> Since writing the foregoing the patient has informed me, March 10, 1894, that the tinnitus is decidedly less, his ear is more comfortable in every way, and the dizziness far less marked than before the operation.



January 16, 1893, he perceived deafness and tinnitus in the previously good right ear. He also suffered greatly from confusion in the head, dizziness, and uncertainty of gait. I examined him shortly after the accident, and found the membrana tympani normal in appearance; there was total deafness; and the tuning-fork on the vertex was not heard. The treatment consisted of inflation of the tympana and a spray of Dobell's solution to the nares at intervals for a few months, but without relief. In fact, the noises in the ear and the confusion in the head, with the attacks of vertigo, were by the autumn of 1893 (nearly a year after the accident) beginning to interfere with the patient's ability to attend to business, though his general health and strength had partly improved. The tinnitus in this case was relievable by Siegle's speculum. I advised removal of the incus, which was done under ether on November 23, 1893. The bonelet was not adherent. November 24th, there was hardly any tinnitus, no vertigo, and a great sense of relief in his head. On November 27th, the patient's head was free from confusion and dizziness for the first time after his accident. A small patch of dried blood was present over the seat of the operation in the posterior quadrant of the membrana.

On November 29th, there had been no dizziness since the operation. On December 2d, it was noted that there was a little tinnitus and dizziness on the previous day, but none on this day. He seemed able to hear my voice in ordinary tones at six inches.

This patient has continued to feel the relief from tinnitus and dizziness to the present time—March 1, 1894—notwithstanding an attack of influenza in January last. He says his memory and intellect have been much better since the operation. The tuning-fork is now heard *per ossa* in the ear operated

on, and his quantitative hearing has certainly increased. He hears quite low tones through the otophone—in audible before the operation. The operation was, however, not undertaken to improve the hearing, but to relieve the patient from tinnitus and tympanic vertigo, which has been accomplished.

I have operated eighteen times for the relief of *tympanic vertigo* within the past six years. *Seven* of these operations were total excision of the membrana tympani and the malleus, followed by relief in all the cases excepting one—an instance of so-called “traumatic” otitis media. *Eleven* cases were operated upon by removal of the incus, the membrana and malleus being left *in situ*; in one of these the entire stapes was removed, and in another the crura of the stapes in addition to the incus. Of the eleven, nine cases were relieved at once and have remained free; one case slowly improved, and one case, in a neuro-pathic subject, has experienced little or no relief as yet.<sup>1</sup> Two of the eleven were cases of “traumatic” catarrh, viz., Nos. XV and XVI (in this article), of the series of eighteen cases of tympanic vertigo upon which I have operated.

All of these operations for the relief of aural vertigo were performed upon the etherized subject, the ear being illuminated by a six-volt electric lamp held on the operator’s forehead. Removal of the incus is preferable to total excision of the membrana tympani and the malleus in these cases, as the latter operation is invariably followed by more or less reaction, while simple myringotomy and removal of the incus is entirely free from this complication.

---

<sup>1</sup> Since the foregoing was written Case XVII has reported great relief from tinnitus and vertigo.





*The Medical News.*

*Established in 1843.*

*A WEEKLY MEDICAL NEWSPAPER.*

*Subscription, \$4.00 per Annum.*

---

*The American Journal*  
*OF THE*  
*Medical Sciences.*

*Established in 1820.*

*A MONTHLY MEDICAL MAGAZINE.*

*Subscription, \$4.00 per Annum.*

---

*COMMUTATION RATE, \$7.50 PER ANNUM.*

---

*LEA BROTHERS & CO.*  
*PHILADELPHIA.*